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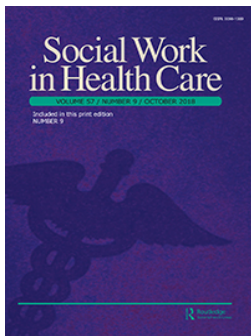
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# Differences in care provided to children with behavioral and emotional problems in a delineated region by using the Taxonomy of Care for Youth (TOCFY)

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## ABSTRACT

Behavioral and emotional problems can lead to severe restrictions in the functioning of children and to an impaired development. The types of support for children vary greatly between care providers. The aim of this study is to apply the Taxonomy of Care for Youth (TOCFY) and to make an inventory of the core elements and program elements of the various types of support for children with behavioral and emotional problems that were offered overall and per main types of providers in a delineated region. We assessed the types of support to children ( $N = 621$ ) by applying TOCFY. The study showed that by using TOCFY we could make an inventory of the various types of support offered. 'Individual child support' and 'family support' were provided most often, and therefore, most interventions were aimed at the child or at the child and his/her parents/caretakers. Support was mostly provided without judicial interference and within an ambulatory/outpatient or home-based setting. TOCFY could be helpful by mapping of information on the support offered to children across various types of care providers. More information on the core and program elements of these types of support may help to optimize care for children and their families.

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## Introduction

Behavioral and emotional problems can lead to severe restrictions in the functioning of children and as a consequence to an impaired development (Maschi, Hatcher, Schwalbe, & Rosato, 2008; Ormel et al., 2017; Spijkers, Reijneveld, & Jansen, 2013). This makes it of major importance to provide support that adequately addresses children's problems timely, which is currently not always the case (Nanninga, Jansen, Knorth, & Reijneveld, 2017; Reijneveld et al., 2014). The number and types of support increased tremendously over the years (Kazdin, 2000; Loeffen, Ooms, & Wijgergangs, 2004; Veerman, Janssens, & Delicat, 2005). Therefore, more knowledge is needed

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about the characteristics of care and treatment in order to optimize the support offered to these children and their families.

Specialized support such as child mental health care, and youth and family care seems to vary greatly in the care being offered. At the very least this variation involves the labels that are used to denote the support they offer, but it may also involve the actual content of support (Fein, 2002; Harden & Klein, 2011; Lee & Barth, 2011; Marsh, Angell, Andrews, & Curry, 2012; Yohalem & Wilson-Ahlstrom, 2010). Identical labels might be used for different types of support, while similar types of support may be given different labels. Evidence lacks on the degree to which real differences in the types of support offered exist within and between providers of psychosocial support (Evenboer, Huyghen, Tuinstra, Knorth, & Reijneveld, 2016).

In the field of care for children with behavioral and emotional problems, several taxonomic instruments have been developed to measure the content of support (Evenboer, Huyghen, Tuinstra, Knorth, & Reijneveld, 2012). However, none of these instruments is fully capable to measure the core and program elements of the various types of support offered (Evenboer et al., 2012). Therefore, we developed the Taxonomy of Care for Youth (TOCFY) by using an empirical development procedure consisting of several stages, namely interviews with experts, analysis of intervention descriptions, analysis of care records, expert meetings, a standardization stage in which terminologies were standardized, and a pilot of the beta version of TOCFY (Evenboer et al., 2012). The various stages of this procedure resulted in an instrument covering six domains that were found to be important for measuring the core and program elements of support for children with behavioral and emotional problems. These six domains are ‘content of the type of support’, ‘judicial context’, ‘duration’, ‘intensity’, ‘recipients’, and ‘expertise of the professional’. The psychometric properties of TOCFY have been shown to be fairly good, with high inter-rater reliability (89.8% agreement) and feasibility (> 90% correct applications) (Evenboer, Huyghen, Tuinstra, Reijneveld, & Knorth, 2017).

TOCFY was developed within the Collaborative Centre on Care for Children and Youth (C4Youth) that connects care, policy, research, and education regarding behavioral and emotional problems among children and youth. The C4Youth activities regard the province of Groningen (the Netherlands), a province in which approximately 20% of the children with behavioral and emotional problems receive psychosocial care (Van Eijk, Verhage, Noordik, Reijneveld, & Knorth, 2013). In the C4Youth study, four care organizations participated, varying from preventive child health care (PCHC) and child and youth social care to mental health care. TOCFY was used by care professionals within these care organizations to obtain more detailed information on the support offered to children and families by these organizations.

Within the first domain of TOCFY, i.e. ‘content of the type of support’, the interventions were divided into seven main types of support, namely ‘family support’, ‘parenting support’, ‘individual child support’, ‘trauma support’, ‘foster care support’, ‘experiential learning support’, and ‘independent living support’. A set of 20 core elements was constructed for each main type of support (Evenboer, Huyghen, Tuinstra, Reijneveld, & Knorth, 2014), which enabled a specification of the content of interventions (cf. Abraham & Michie, 2008). Professionals, who used these sets of core elements, could characterize all interventions that were part of that main type of support. Core elements are in this study defined as techniques that could be carried out during a specific main type of support. Examples of core elements are ‘teaching a client how to set rules’, ‘prompting client to express emotions’, ‘stimulation of interaction’ and ‘providing positive reinforcement’.

With the other five domains of TOCFY we measured the program elements of the types of support offered by these four organizations. *Program elements* are those aspects of support that might influence the outcomes on the shorter and on the longer term, like the judicial context and duration of the type of support. Thereby, these program elements provide a framework in which the core elements are carried out (Lee, Ebesutani, & Kolivoski et al., 2014).

More detailed information on the core and program elements of support could be helpful for determining whether there is a connection between the problem behavior initially presented by these children, the care they receive, and the outcomes to be obtained. Therefore, the aim of this study is to apply TOCFY and to make an inventory of the core elements and program elements of the various types of support for children with behavioral and emotional problems that were offered overall and per main types of providers in a delineated region.

## Method

### Sample

The C4Youth study included all children with behavioral and emotional problems including their families that enrolled in psychosocial care in the delineated region of C4Youth in the province of Groningen (the Netherlands). In this region, about 580,000 people are living, of whom 117,453 are aged 18 or below (Van Eijk et al., 2013).

Enrollment regarded PCHC, child and youth care (CYC), and mental health care, split in two services (MHC-A, MHC-B). PCHC is the preventive health care for children, for which municipalities take responsibility. PCHC covers relatively mild psychosocial problems. CYC offers outpatient and home-based care and treatment programs, with out-of-home care trajectories for youngsters in family foster care and residential care if needed. CYC is

focused somewhat more on (externalizing) behavior and family problems. Mental health care includes outpatient care and inpatient care and treatment. MHC is more directed at treatment of emotional and psychiatric problems of the child. MHC-A entails a more academic approach, among other things by conducting research on the types of support it offers. MHC-B covers more practice-based support with a social-psychiatric signature. Some small departments within CYC and MHC-A did not participate in the study due to practical issues, such as overload. Because these departments did not participate due to practical reasons, there is no reason to assume that this would have had an influence on the group of children and parents as included in the study.

Via PCHC, CYC and both MHC's 2,615 potentially eligible participants for the care sample were recruited between May 2011 and April 2013. Children with insufficient understanding of Dutch, living outside the northern region, or following special education because of intellectual impairment were excluded ( $N = 174$ ). Per family, one child and one parent could participate. In total, 1,382 participated (response 56.6%) (Verhage, Noordik, Knorth, & Reijneveld, 2016). This study reports on a group of 621 children who received a total of 1,116 interventions, with some children receiving multiple forms of services at the same time. Therefore, the number of types of support exceeds the number of children. We did not address comorbid conditions as far as it concerned multiple diagnoses, but children could score on various dimensions of the Strengths and Difficulties Questionnaire. The types of support provided to this group were representative for the types of support provided by other care organizations within the delineated region (Verhage et al., 2016). We measured in one delineated region to prevent selection bias and to include the full range of problems.

## **Procedure**

We obtained data on support provided to each individual child and his/her family from the care professional via a web-based questionnaire. Children and parents/caretakers who participated in the study gave written informed consent. The design of the study was assessed by the Medical Ethics Committee of the University Medical Center Groningen and approved without needing full assessment.

## **Measures**

We measured the core and program elements of the types of support offered by the four care organizations by using TOCFY. This measure was used and evaluated in previous studies (Evenboer et al., 2014, 2016a, 2016b). The interventions were grouped into seven main types of support, i.e. 'family support',

‘parent support’, ‘individual child support’, ‘trauma support’, ‘experiential learning support’ (interventions which are aimed at supporting youth by actively engaging them in activities they can learn from within the context of treatment), ‘independent living support’ (interventions which prepare and stimulate adolescents to independently organize their own housing and life), and ‘foster care support’ (Evenboer et al., 2014). For each main type of support, we collected core elements using all the interventions included in the EYI database (Netherlands Youth Institute, 2013). All manuals of the interventions from this database were analyzed in order to achieve a good representation of the types of support offered within the four care organizations. The 20 most frequently used core elements per main type of support in these intervention manuals were collected, resulting in predefined lists for each main type of support (Evenboer et al., 2014). Professionals working at the care organizations scored the applicability of the core elements for the interventions using a seven-point Likert scale ranging from (1) ‘very poor’ to (7) ‘very good’. ‘Very poor’ meant that a core element was very poor applicable for an intervention, while ‘very good’ meant that the core element fully represented (one of) the activity to be carried out.

*Program elements* regarded the judicial context, the duration, the recipients, the professional expertise, the intensity, and the setting. The *judicial context* concerned four categories: ‘without judicial interference’, ‘with civil proceedings’, ‘with penal proceedings’, and ‘compulsory placement’. The *duration* concerned either ‘short-term care’ ( $\leq 3$  months) or ‘longer term care’ ( $> 3$  months). The intensity domain was not assessed here because the greater part of the care trajectories had not yet been completed.

The *recipients* concerned five categories: ‘child’, ‘parents/caretakers’, ‘child and family’, ‘child and parents/caretakers’, and ‘other/other combination’. The *professional expertise* concerned the five most often registered professions for each care provider, for example, a social worker, psychologist, or child nurse. We further assessed the *setting* of the intervention; in other words, the environment in which the intervention took place. This regarded five categories: ambulatory/outpatient care, home-based care, day treatment, residential care, or family foster care. More details on the categories of the program elements can be found in Table 2.

## Analysis

First, we assessed age and gender of clients ( $N = 621$ ) overall and for each provider separately. Second, we assessed the content, the judicial context, duration, recipients, the expertise of the professional, and the setting of all interventions ( $N = 1,116$ ) provided to children or children and their families ( $N = 621$ ). We conducted descriptive analysis to provide an overview of the core and program elements measured by TOCFY.



## Results

**Table 1** presents the gender and age distribution of children per type of provider. The total number of boys and girls was almost equal. In CYC, support was offered to girls more often, whereas the reverse occurred in PCHC and MHC. In PCHC, the group children of 4–11 years was overly represented, and here the reverse occurred in the other types of support.

**Table 2** provides information on the mean number of interventions per child, being highest for MHC-B ( $M = 1.9$ ) and lowest for PCHC ( $M = 1.1$ ). Furthermore, the table provides an overview of the content and other characteristics of the interventions offered to children with behavioral and emotional problems. Concerning the content, PCHC and CYC mainly offered ‘family support’ while both types of MHC providers mainly offered ‘individual child support’.

Concerning the other characteristics that were measured, **Table 2** shows that interventions within all types of support were mostly offered without judicial interference and were frequently indicated as ‘longer term care’. In PCHC, the recipients were most often ‘parents/caretakers’ and support was mostly offered by a child nurse in an ambulatory/outpatient setting. In CYC, the types of support were mainly offered by a socio-pedagogical worker, and the recipients concerned ‘other/other combinations’ such as ‘foster family/parents and child’ or ‘child/parents/caretakers and neighborhood’. The support was offered mostly within a ‘home-based’ or ‘residential’ setting. For both MHC providers, the child was the most frequent recipient of support and both providers most frequently offered ‘ambulatory/outpatient care’. In MHC-A, the most frequent professional expertise was pedagogue. In MHC-B, the professional was a family adviser most frequently.

## Discussion

The aim of this study was to apply TOCFY and to make an inventory of the core elements and program elements of the various types of support for children with behavioral and emotional problems that were offered per main

**Table 1.** Characteristics of children ( $N = 621$ ) receiving care, by gender and age, per provider and in total.

|             | Preventive child health care (PCHC) | Child and youth care (CYC) | Mental health care (MHC-A) | Mental health care (MHC-B) | Total       |
|-------------|-------------------------------------|----------------------------|----------------------------|----------------------------|-------------|
| Gender      |                                     |                            |                            |                            |             |
| Male        | 13 (52.0%)                          | 80 (41.9%)                 | 48 (57.8%)                 | 168 (52.2%)                | 309 (49.8%) |
| Female      | 12 (48.0%)                          | 111 (58.1%)                | 35 (42.2%)                 | 154 (47.8%)                | 312 (50.2%) |
| Total       | 25 (100%)                           | 191 (100%)                 | 83 (100%)                  | 322 (100%)                 | 621 (100%)  |
| Age (years) |                                     |                            |                            |                            |             |
| 4–11        | 21 (84.0%)                          | 67 (35.1%)                 | 29 (34.9%)                 | 137 (42.5%)                | 254 (40.9%) |
| 12–18       | 4 (16.0%)                           | 124 (64.9%)                | 54 (65.1%)                 | 185 (57.5%)                | 367 (59.1%) |
| Total       | 25 (100%)                           | 191 (100%)                 | 83 (100%)                  | 322 (100%)                 | 621 (100%)  |



**Table 2.** Characteristics of interventions ( $N = 1,116$ ) provided per organization to children and their families with behavioral and emotional problems in the delineated region.

| Care organization                 | Preventive child health care (PCHC)<br>$N = 27$<br>(2.4%) |       | Child and youth care (CYC)<br>$N = 329$<br>(29.5%) |       | Mental health care (MHC-A)<br>$N = 151$<br>(13.5%) |       | Mental health care (MHC-B)<br>$N = 609$<br>(54.6%) |       | Total sample<br>$N = 1,116$<br>(100%) |                 |
|-----------------------------------|---|-------|--|-------|--|-------|--|-------|---------------------------------------|-----------------|
| Mean number of interventions      | 1.1   |       | 1.7  |       | 1.8  |       | 1.9  |       | 1.6                                   |                 |
| Standard deviation                | 0.3   |       | 1.2  |       | 1.4  |       | 1.1  |       | 1.0                                   |                 |
| Range                             | 1–2   |       | 1–8  |       | 1–7  |       | 1–7  |       | 1–8                                   |                 |
|                                   | $N$   | %     | $N$  | %     | $N$  | %     | $N$  | %     | $N$                                   | %               |
| Main type of support <sup>a</sup> |   |       |  |       |  |       |  |       |                                       |                 |
| Individual child support          | –   | –     | 39   | 11.9  | 92   | 60.9  | 359  | 58.9  | 490                                   | 43.8            |
| Trauma support                    | –   | –     | 6  | 1.8   | 1  | 0.7   | –  | –     | 7                                     | 0.6             |
| Experiential learning support     | –   | –     | 38   | 11.6  | –  | –     | –  | –     | 38                                    | 3.4             |
| Independent living support        | –   | –     | 52   | 15.8  | –  | –     | –  | –     | 52                                    | 4.7             |
| Parenting support                 | –   | –     | 25   | 7.6   | 36   | 23.8  | 162  | 26.6  | 223                                   | 20.0            |
| Family support                    | 27  | 100   | 145  | 44.1  | 22   | 14.6  | 88   | 14.5  | 282                                   | 25.3            |
| Foster care support               | –   | –     | 24   | 7.3   | –  | –     | –  | –     | 24                                    | 2.2             |
| Judicial context of intervention  |   |       |  |       |  |       |  |       |                                       |                 |
| Without judicial interference     | 27  | 100   | 219  | 70.4  | 144  | 98.0  | 593  | 98.5  | 983                                   | 90.4            |
| With civil proceedings            | –   | –     | 67   | 21.5  | 3  | 2.0   | 9  | 1.5   | 79                                    | 7.3             |
| With penal proceedings            | –   | –     | 25   | 8.1   | –  | –     | –  | –     | 25                                    | 2.3             |
| Duration (months)                 |   |       |  |       |  |       |  |       |                                       |                 |
| 3 or less                         | 12  | 44.4  | 34   | 10.3  | 41   | 27.2  | 102  | 16.2  | 189                                   | 16.9            |
| More than 3                       | 15  | 55.6  | 295  | 89.7  | 110  | 72.8  | 507  | 83.3  | 927                                   | 83.1            |
| Recipient(s)                      |   |       |  |       |  |       |  |       |                                       |                 |
| Child                             | –   | –     | 81   | 20.1  | 70   | 41.7  | 263  | 37.9  | 414                                   | 31.9            |
| Parent/carer                      | 23  | 74.2  | 54   | 13.4  | 17   | 10.1  | 122  | 17.6  | 216                                   | 16.7            |
| Child and family                  | 2   | 6.4   | 62   | 15.4  | 6  | 3.6   | 81   | 11.7  | 151                                   | 11.7            |
| Child and parent/carer            | 6   | 19.4  | 91   | 22.6  | 55   | 32.7  | 178  | 25.6  | 330                                   | 25.4            |
| Others/other combinations         | –   | –     | 115  | 28.5  | 20   | 11.9  | 50   | 7.2   | 185                                   | 14.3            |
| Ranking by frequency <sup>b</sup> |   |       |  |       |  |       |  |       |                                       | Overall ranking |
| Expertise of professional         |   |       |  |       |  |       |  |       |                                       |                 |
| Family adviser                    | 5   |       | 3  |       | 3  |       | 1  |       |                                       | 1               |
| Pedagogue                         |   |       | 5  |       | 1  |       | 4  |       |                                       | 2               |
| Psychologist (health care)        |   |       |  |       | 2  |       | 2  |       |                                       | 3               |
| Social worker                     |   |       | 4  |       |  |       | 5  |       |                                       | 4               |
| Socio-pedagogical care worker     |   |       | 1  |       |  |       |  |       |                                       | 5               |
| Child nurse                       | 1   |       |  |       |  |       |  |       |                                       | 6               |
| Ambulatory supervisor             |   |       | 2  |       |  |       |  |       |                                       | 7               |
| School doctor                     | 2   |       |  |       |  |       |  |       |                                       | 8               |
| Psychologist (developmental)      |   |       |  |       |  |       | 3  |       |                                       | 9               |
| Socio-psychiatric nurse           | 3   |       |  |       |  |       |  |       |                                       | 10              |
| Child/adolescent psychiatrist     |   |       |  |       | 4  |       |  |       |                                       | 11              |
| Nurse practitioner                | 4   |       |  |       |  |       |  |       |                                       | 12              |
| Behavioral scientist              |   |       |  |       | 5  |       |  |       |                                       | 13              |
| Setting                           |   |       |  |       |  |       |  |       |                                       |                 |
| Ambulatory/outpatient care        | 23  | 85.2% | 41   | 12.5% | 79   | 52.3% | 542  | 89.0% | 685                                   | 61.3%           |
| Home-based care                   | 4   | 14.8% | 120  | 36.5% | 4  | 2.7%  | 67   | 11.0% | 195                                   | 17.5%           |
| Day treatment                     | –   | –     | 32   | 9.7%  | 68   | 45.0% | –  | –     | 100                                   | 9.0%            |
| Residential care                  | –   | –     | 112  | 34.0% | –  | –     | –  | –     | 112                                   | 10.0%           |
| Family foster care                | –   | –     | 24   | 7.3%  | –  | –     | –  | –     | 24                                    | 2.2%            |

<sup>a</sup>The frequencies displayed in the table represent the characteristics of the number of interventions offered, which could exceed the number of children as one child sometimes received more than one type of care.

In addition, in some cases information could be missing.

<sup>b</sup>The five most common professional expertises per organization are presented (most frequently observed expertise = 1; least frequently observed expertise = 5). The overall ranking is based on the most common professional expertises across the organizations.

types of providers in a delineated region. By applying TOCFY in this region in the context of the C4Youth study, we were able to make an inventory of the most salient aspects of this care. The total number of boys and girls was almost equal. 'Individual child support' and 'family support' were provided most often, and therefore, most interventions were aimed at the child or at the child and his/her parents/caretakers. Support was mostly provided without judicial interference and within an ambulatory/outpatient or home-based setting.

'Individual child support' concerned the largest part of the interventions offered, but to a varying degree per provider with its share being largest for MHC. An explanation could be that MHC focuses more on severe mental health problems that require more specialized, individualized support (Reijneveld et al., 2014). In CYC, the share of 'individual child support' was somewhat smaller, which fits with the focus in this type of support being more on the social background of the child (Reijneveld et al., 2014). That may cause the range of types of support provided to be wider. An advantage of this wider range of services is that context-related problems, such as social and economic problems of the family, are more likely to be treated. On the other hand, treating context-related problems does not guarantee individual improvement of the psychosocial problems of the child (Tausendfreund & Knot-Dickscheit, 2015). In MHC, the opposite could be the case, where the focus is more on the individual child and the context-related problems are less likely to be addressed.

The three types of providers varied substantially in the range of care they offered, as was expected. Typically, PCHC mainly offered short-term care and treatment aimed at parents, as might be expected due to the relatively mild problems compared to CYC and MHC (Faber, Burgers, & Westert, 2012). CYC offered a much wider range of services, mainly in a home-based or residential setting, which reflects the context-focused approach and the main target group of the provider (Reijneveld et al., 2014). This may also explain the rather surprising finding that girls were more likely to have CYC support, but this definitely requires further study. Both MHC providers offered 'individual child support' most often, with children as the main recipients. This indicates that these care providers all service divergent target groups.

Generally, more 'parenting support' was offered to children aged 4–11 years, which reflects the fact that within this younger group parents were the main recipients of the intervention (Faber et al., 2012). 'Independent living support' and 'experiential learning support' were provided only to adolescents; these types of support focus on preparing and stimulating young people to independently organize their own basic needs and daily life (Van der Ploeg, 2005).

This study shows that the application of TOCFY could provide important information on the most salient aspects of support offered for children with behavioral and emotional problems and their families in a delineated region. By using TOCFY we are able to partly open the black box of care. This type of information may help researchers and practitioners to connect the problem behavior initially presented by the clients, the support they received from a specific type of provider, and the outcomes of treatment on the short and the longer term. Periodic collection of this information may help to assess whether the (regional) supply of support meets the needs in the community concerning various types of care (Bijl, De Graaf, Ravelli, Smit, & Vollebergh, 2002; Chorpita & Daleiden, 2009; Ezell et al., 2011; Lee & Barth, 2011; Lloyd-Evans, Johnson, & Slade, 2007; Taylor, 2005). In addition, this type of information can optimize the types of care offered to children. If children could benefit more from interventions because they suit their problems better, then this may add to the resolution of severe restrictions in their functioning later on.

### ***Strengths and limitations***

A strength of this study is its large sample size and its coverage of the full range of support for behavioral and emotional problems in a delineated region. As a result, interventions could be compared within and across providers that offer various types of support. Another strength is that we were able to use the reliable and valid TOCFY instrument (Evenboer et al., 2016b), with which we could provide information on pivotal characteristics of support for children.

A limitation of the study is that we missed some small providers of support modalities in the region that deal with children with behavioral and emotional problems. However, previous research showed that their share in the care in this region is small (Van Eijk et al., 2013).

### ***Implications***

TOCFY enables professionals to gather relevant information on the care provided to children with behavioral and emotional problems per care provider within the delineated region. The results show that both MHCs were somewhat more focused on the individual and CYC was more focused on involving the context of the child. For solving problems in a more persistent way, a focus on the individual as well as on its context is needed.

For future research, it would be of interest to further characterize the seven main types of support. Specifically, it would be of interest to obtain professionals' opinions on the usefulness of core elements in daily practice. That could be done by collecting more detailed knowledge on the core elements that professionals actually use during their daily practice. This provides more

information on the usefulness of core elements for specific types of problems that children and their parents experience.

Practitioners in other regions or countries could likewise use the structure, including the domains, categories, and subcategories of TOCFY to obtain an overview of the care and treatment offered within their own region. This provides care organizations with more detailed information on the support offered, which could be helpful for optimizing the care trajectories of children because they can be based on a more precise description of the contents of each intervention.

Applying in TOCFY within a region can be very useful – because of its property to provide information on care offered, for regionally based planning of support. This holds not only for policymakers in the Netherlands, but also internationally, as worldwide more knowledge is needed about the characteristics of treatment and care (McAuley, Pecora, & Rose, 2006; Vostanis, 2007). The framework of TOCFY may thus be useful in other countries as well.

By using TOCFY we were able to provide meaningful information on the support offered. This type of information could be used in future research to make sure that children receive the care they need more timely. Furthermore, such information could help to optimize the connection between the problem behavior initially presented by these young clients, the support they received, and the outcomes obtained.

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